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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

2005P00319WOUS

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Application Number

10/591,089

Filed

05/21/2007

First Named Inventor

Johannes Reinschke et al.

Art Unit

2834

Examiner

Michael Andrews

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.☐ assignee of record of the entire interest.See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)☐ attorney or agent of record.

Registration number \_\_\_\_\_

☒ attorney or agent acting under 37 CFR 1.34Registration number if acting under 37 CFR 1.34 62.246/Andre Pallapies/

Signature

Andre

Typed or printed name

252-672-7927

Telephone number

February 1, 2012

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.

Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ forms are submitted.

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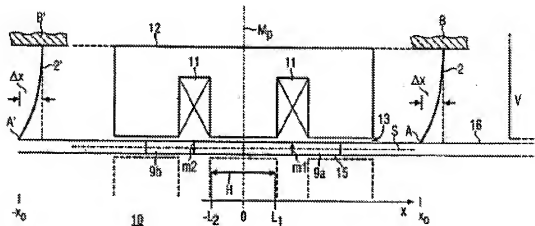
**STATEMENT OF ARGUMENTS IN SUPPORT OF  
PRE-APPEAL BRIEF REQUEST FOR REVIEW**

The rejection set forth in the Final Office Action of November 2, 2011 ("Office Action") fails to establish a prima facie case of obviousness for each one of the independent claims and their respective dependents.

**Error #1 –Rumswinkel does not teach an armature in the center position with attached springs that apply a force along the movement of the armature.**

Independent claims 7, 13, and 20 all set forth features that define a center position about which an armature oscillates. In addition to setting forth where such a position is within the drive unit, the claims also set forth how a spring is attached to the armature when the armature is in the center position.

To illustrate these features, Fig. 1 of the instant application is reproduced below.



Here, the armature 15 is shown at the "center position," Mp, and oscillates between the minimum and maximum points -L<sub>2</sub> and L<sub>1</sub>. Further, in the center position, springs 2 and 2' are displaced by Δx (e.g., a predetermined distance) away from the clamped positions B and B' and affixed to the armature at A and A'. Accordingly, when the armature is in the center position Mp, the springs 2 and 2' apply a force to the right (e.g., in the

direction the armature moves). See Paragraphs 18-21. Zabar, Rumswinkel, or a combination thereof fails to teach or suggest such features.

Indeed, the Office Action acknowledges Zabar's deficiency by noting that, with respect to independent claim 20, "except that Zabar does not expressly disclose that, when the armature part is at the center position, the point of application of the spring on the armature part is displaced axially by a predetermined distance in relation to the claimed position of the spring, or that when the armature part is at the equilibrium [center] position the spring is pre-tensioned."<sup>1</sup> Office Action at page 11-12, emphasis added. However, the other reference relied upon, Rumswinkel, also does not teach or suggest the teachings that the Office Action acknowledges are missing from Zabar.

Rumswinkel's Fig. 3 is reproduced below.

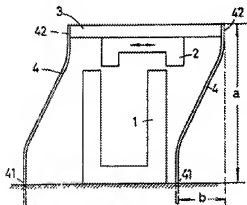


FIG. 3

Here, 1 is a magnet, 2 is an armature, and 4 are spiral or leaf springs that rotate at their base 41 as the armature moves (in the directions indicated by the double-arrow). In addition, the state of the armature in Fig. 3 is that of its position of "repose." See Page 1, Lines 8-9 of Professional Rumswinkel Translation. During operation of Rumswinkel's

<sup>1</sup> The term "equilibrium" is not present in the claims. This term was removed in a prior response and, in certain cases, substituted for the current term, "center." See Applicant's Response of April 18, 2011 at Page 6. Applicant also notes that the Office Action continually refers to "equilibrium," despite the term not be present anywhere in the claims.

shaver, the armature is “pulled periodically centrally to in front of the pole end face of the magnet 1.” See Page 3, Lines 20-24 of Professional Rumswinkel Translation.

As set forth in claim 20, a center position is the equidistant point between the two maximum deflections of the oscillating armature. Independent claims 7 and 13 set forth that the center position is a point about which the armature symmetrically oscillates. Further, the center point is also the point where the armature is aligned with the center of the yoke body and/or winding. In contrast to such features, it is impossible for Rumswinkel’s armature 2 to adopt such a position. As the armature in Rumswinkel cannot adopt such a position, it cannot cure the above admitted deficiencies of Zabar (e.g., “when in the center position...”).

The Office Action appears to believe that Rumswinkel’s “center position” is the position in which the armature is shifted to the left from the position shown in Fig. 3. See Office Action at Page 12, Lines 14-16. This interpretation, however, does not reflect what is actually disclosed (or not disclosed) by Rumswinkel.

Regardless of the Examiner’s interpretation, the center point is both an equidistant (or symmetric oscillation) point of the armature and the point where the armature is aligned with the yoke/windings. However, in Rumswinkel these two points cannot be the same.

First, the alignment of Rumswinkel’s armature 1 with the magnets 2 would seem to be a maximum deflection point in the oscillation of the armature. In other words, a point that is as far away as possible from the center. This aligned position is the maximum position because Rumswinkel discusses that the armature is “pulled” by the magnet to the aligned position. See above. There is no other force that could push/pull

the armature past the magnets. Accordingly, the alignment of the armature and magnet, contrary to the assertion in the Office Action, is not a center position as set forth in the claims.

Second, Rumswinkel offers no express guidance as to where the symmetric oscillation point or equidistant point would be for the oscillating armature. One could theorize that it could be the position of the armature shown in Fig. 3. However, as can be plainly seen from Fig. 3, the armature in this position it is not aligned with the magnet. Accordingly, this position is also not the claimed center position (as is any other position that is left of the shown armature position).

Therefore, Rumswinkel cannot supply Zabar's missing teachings as it does not teach or suggest, "when the armature part is at the center position, the point of application of the spring on the armature part is displaced axially by a predetermined distance in relation to the claimed position of the spring, or that when the armature part is at the equilibrium position the spring is pre-tensioned." In other words, as Rumswinkel's armature cannot adopt the above emphasized condition precedent, it cannot supply the further teachings of how the springs are related to the armature.

In essence, it appears that in attempting to relate the above noted features (e.g., displacement of the spring) to Rumswinkel's disclosure the Office Action ignores the requirement that the above features are associated with the armature part in the center position.

**Error #2 –A Person of Ordinary Skill in the art would not combine Zabar with Rumswinkel.**

In addition to the above, a Person of Ordinary skill in the art would also not have combined Rumswinkel with Zabar. The Office Action states, “it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the linear drive unit of Zabar by offsetting the armature part as taught by Rumswinkel, for improving the efficiency thereof, since Rumswinkel teaches that such a drive unit minimizes the air gap between the magnetic components.” Office Action at Page 6.

First, why would Rumswinkel’s technique of minimizing an air gap between the magnetic components be of relevance to Zabar? Zabar already alleges that his design minimizes air gaps by noting that “the gap between the plunger and electromagnets to be very small, thereby increasing efficiency.” Column 5, Lines 35-45. Zabar’s setup allows for large longitudinal displacement but negligible transverse displacement. Id.

Second, even if a person of ordinary skill in the art would ignore the already solved problem in Zabar with Rumswinkel’s teachings, Rumswinkel’s teachings would have no effect on any air gap. Specifically, Zabar’s design has the plunger bounded on both sides by magnets. How would offsetting the armature part in Zabar further assist in minimizing the air gap as taught in Rumswinkel? To applicant such an adjustment would be completely irrelevant.

In sum, the Office Action both ignores that the placement of the springs is with respect to the “center position” and ignores that Rumswinkel is not combinable with Zabar. Withdrawal of the rejections is therefore respectfully requested.

In view of the above remarks, Applicants respectfully submit that the claims are patentable and that the entire application is in condition for allowance.